

ART. XIII.—*On Colonial Wines.* By REV. JOHN J.
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[Read 13th May, 1867.]

MR. PRESIDENT AND GENTLEMEN,

The subject of this paper may be said to belong to the primary objects contemplated by this Society—viz., to record original investigations in art, science, and literature, and I trust it will possess, if not a lively, at least sufficient interest to engage your attention for a brief portion of this evening.

Before entering on the subject permit me to say, that I hardly think it necessary to offer *you* an excuse or apology for having chosen Colonial Wines for my subject; but there may be others who will read this paper who can know absolutely nothing of my fitness for my task save what they can glean from the internal evidences that it may afford. Neither do I intend to trouble you or any one else with an autobiography further than to state, that more than a quarter of a century ago I was placed in favourable circumstances for acquiring a thorough knowledge of the growth and treatment of the vines and wines of Portugal, especially in the vicinity of the capital, and that I made use of the opportunity to the best of my ability.

On my arrival in this colony, now more than sixteen years ago, one of the first things that I turned my attention to, as an occupation for the little leisure afforded in the intervals of ministerial duty, was to collect what information I could concerning wine-making and vine-culture in Victoria and New South Wales.

Early in 1851 I visited the vineyards on the Barrabool Hills, and obtained samples of the various kinds of wines at that time manufactured. The white was for the most part agreeable young wine, partaking of a hock character. The red, without any exception, was high coloured, sweetish, and adorned with a bouquet that I can liken to nothing I am acquainted with. Greater age of the vines, and better treatment of the wine, have gradually corrected much of this; and of late years I have tasted wine from these same which was free from this *gout de terrain*, and quite good in other respects—in fact, really good wine.

I need not advert to the causes which subsequent to 1851

made vineyards more profitable for fruit than wine until perhaps as late as 1858. Even in 1859 comparatively little had been done in this colony in the way of systematic cultivation of the vine. There were not many men in the country acquainted with vine-culture and wine treatment, and of this small number some had other pressing and more presently lucrative avocations; and most of the rest did not altogether believe in the suitability of the soil and climate. Previous to 1858 the Sydney agent of the Messrs. M'Arthur, of Camden turned his attention to the Melbourne market, but after a time all but gave up the attempt to establish a branch business among us.

I allude to these matters now, because out of this attempt have come most of the details which I am going to touch upon in the first part of this paper. While this project was before his mind, the gentleman I allude to supplied me with abundant samples of what we knew by the name of Sydney wines, both red and white—the best being from Camden—and also with samples of ports, sherries, and hocks. These last-named were sent for the purpose of standards, to which the colonial wines were to be referred in their various leading characteristics, such as alcoholic strength, bouquet, resistance of change, &c.

I had intended publishing the results of my investigations as soon as they were in a condition to be laid before the public. But the introduction of wines from the Hunter River district, different in many remarkable respects from those with which I had been furnished by Mr. Ralph Hutchinson, caused me to lay aside my intention till I should be in a position to report upon them also. About this time I first saw really good wine from South Australia; and this again presented fresh characteristics and new points of interest. A desire to make my study complete induced me to defer still longer; and then circumstances occurred which obliged me to all but abandon every kind of chemical investigation. Thus to this day my results have remained on the pages of my laboratory note-book.

I set to work upon these Sydney Wines in the latter months of 1859 and about the beginning of 1860, when I had scarcely well finished studying, analysing, and comparing them (for I had not a deal of leisure time), Mr. J. E. Blake appeared in Melbourne, and in an incredibly short time made us thoroughly acquainted with Irrewang and Kaludah, red, white, and rosy. From this point the history of colonial wine in Victoria dates and starts. Till then no wine, the

produce of these colonies, was regarded as a beverage, which could be safely placed upon the table, save with great caution and an apology, and only in a few rare and exceptional instances; and it required considerable hardihood in any one professing to know aught about wine to assert, in the company of gentlemen, that he could relish any of even our best colonial wines.

But while Mr. Blake's importation of wines, of his own making, created a new era, it did much more, for it indirectly and by emulation brought the fine wines of South Australia for the first time into general notice, and thus gave to the public opportunities of comparing our own colonial produce with that of our sister colonies.

I need not say how much this country has profited by these opportunities, and what a spirit of emulation has sprung up among us.

At later times I tested some wines said to have been made by Mr. Lindemann, on the Hunter, with much the same result as to alcohol, but very different in the power of endurance. Of this class of wines I have met with fine specimens, made by Mr. Walsh and Mr. Everist, of Hawthorn, but they had not the same age as the Irrewang—the wine I have always thought the best colonial I ever tasted. May I hope for his own benefit and the benefit of the consumers, that Mr. Blake will be able to equal it at Tabilk.

Belonging to the same high class are the wines of Adelaide, made by Mr. Gilbert and Mr. E. J. Peake, of Clarendon. I speak of these, because I am well acquainted with them, both red and white. They are wines which would do honor to any country in the world. I tasted also a few samples from Kapunda, at least called Kapunda, chiefly red, which rose to the character of middling young port, but with a somewhat different flavour. With reference to these wines I am happy to be able to furnish a far higher expression of opinion than my own word. A gentleman desired me about a year ago to procure a few dozens, and send them to friends in England and Ireland. I selected a red wine of Mr. Gilbert's, and a Riesling, a few bottles of Kapunda red, and the rest believed to be Mr. Peake's Palomino Blanco.

Samples of this little lot found their way eventually into the hands of one of the largest and most extensively known Dublin Wine Merchants, who, when they had rested for a month or two, invited some other good judges to sample them. And, I have it on the most reliable authority, that they all

concurrent in the expression of opinion, that they were new in some of their characteristics, and excellent in all. And that if such kinds could be supplied at fair prices, they would command ready sale.

Another class of wines, all Victorian, are the produce of the Geelong district, with which I would place the young wines of Yering. These are delicate, dry, and admirable summer wines. I have seen samples of Dr. Hope's wines, of Batesford, and of Mr. Dardell's, and some others, as well as the Yering, of great merit. Some wines of Dr. Hope's were absolutely splendid. The same may be said of Sunbury and Riddell's Creek wines.

When we pass the Dividing Range north and east, we at once come upon another class of wines quite distinct from any of those already enumerated, strong, luscious, and full-bodied. Here the Scyras and the Verdelho grape seem to come to perfection, while the Riesling also appears to surpass the produce of Adelaide in sweetness. What these wines will come to I can only guess, but they promise great things. From Castlemaine, Sandhurst, Wahgunyah, Albury, and lately from the Goulbourn, I have met with wines that lead us to hope that this country will ere long replace without disadvantage every one of the best imported varieties, and with this decided advantage, that they are not sophisticated.

The first lot, then, which I took in hand, was the produce of the Camden vineyards, New South Wales, furnished by Mr. Hutchinson, of Sydney, at that time agent for the Messrs. Macarthur.

These consisted of several samples of different ages of wines, labelled "Cawarra" and Red Camden, at least they are so entered in my note book. The "Cawarra" was a fine pale coloured white wine, somewhat resembling Sauterne, but of course with little bouquet, very thin, quite dry, and altogether a delicious hot weather wine. A mean of five distillations gave it 7.28 per cent. of alcohol (absolute alcohol). But it would not keep; if a bottle were opened, a glass or two taken out, and the cork replaced, next day it showed much acetic acid, and by the third was quite sour. I speak of warm weather. I could never detect a trace of sugar in this wine, while the residue of vegetable matter, extractive, &c., was the least I ever saw in any wine, yet when drunk, it gave one the idea "of a mouthful of wine." It was remarkable for little tannic acid. My experiments on the Red Camden were many and

various ; for I became much interested in it. By distillation I obtained 10 per cent. of alcohol : and by evaporation, considerable, but not excessive, residue. Its colour was near Burgundy, and its bouquet, though deficient, was agreeable ; but unlike that of any wine I am acquainted with. It might be called a dry wine. It contained a good deal of extractive, tannic acid, &c., and I well remember the trouble it gave me to reduce the residue after evaporation to a condition of dryness.

Much used to be said about the perishable nature of *all* colonial wines. "If you open a bottle you must drink it, or it will turn sour directly." Now, when I proceeded to operate on this wine, I was at once struck by the falseness of the cry about being easily destroyed, turning sour, &c., at least in the case of red. The method I took in experimenting on this sample, was to take a bottle in hot weather, open it and take out two wine glasses-full, and replace the cork in about the same way as a servant might be supposed to do, and let it stand for a week, and then re-open it and draw another glass or two, and replace the cork, and so on. I can state truly of this wine, as indeed of some of the Adelaide red wines, that nothing could surpass its resistance to acidity. I exhibited to a number of private friends the bottles in which I carried out the above experiments ; marked as they were by rings of deposit, thicker as they descended towards the bottom ; while in some cases, the last three glasses had deposited nearly all their colouring matter, but were still strong sound wine.

After this, I considered the durability of our red wines to depend entirely on the ripeness of the grapes, careful fermentation, and on keeping the casks well attended to before the time of bottling, and great caution about matters made use of in fining. Subsequently I subjected those red and white wines, with which Mr. Blake commenced to create a wine market in Melbourne, to much the same kind of tests, and in the case of the reds, with success second only to the Camden Reds. But in the case of his white wines, "the Kaludah" and "Irrewang," and remarkably in the case of the *latter*, I found that they would resist change, and remain good after being opened, better than ordinary good German wines, of a somewhat similar class—Riesling for example. And here again, while the kind of grapes had something to do with it, fermentation and after treatment had much more.

Three specimens of "Irrewang," yielded an average of 9·103 of alcohol, while the same number of specimens of Kaludah, gave only 8·31.

ABSTRACT OF THE AVERAGE STRENGTH OF WINES OF AUSTRALIA SHOWN AT THE INTERNATIONAL EXHIBITION OF 1862, AND SUBSEQUENTLY ANALYZED BY DR. KEENE.

Seat of Growth.	Colour.	Proof Spirit per cent.				No. of Samples tested.
		Greatest Strength.	Least Strength.	Average.	Average Strength per Gay-Lussac.	
New South Wales ...	Red	—	—	25·9	14·9	2
Do. do. ...	White	24·6	18·9	22·7	13.	4
Victoria ...	Red	28·6	20·2	23·3	13·4	7
Do. do. ...	White	27·9	20·2	25·6	14·7	5
Mataro-Victoria ...	Red	—	—	20·2	11·7	1
Frontignac do. ...	"	—	—	22·	12·7	1
Hermitage do. ...	"	—	—	20·8	12·0	1
Burgundy do. ...	"	23·9	28·6	26·7	15·3	2
Red Victoria ...	"	—	—	28·6	16·5	1
White do. ...	White	—	—	25·9	14·9	1
Tokay	"	—	—	27·9	16·0	1
White Pineau ...	"	—	—	24·6	14·1	1
Australian Sauterne ...	"	—	—	20·2	11·6	1
Chasselas ...	"	—	—	24·6	14·1	1

In every instance the average is about three per cent. of spirit stronger than I found it in the samples I distilled, which may be accounted for by either stronger samples having been chosen for transmission to Europe, or the not unreasonable addition of three or four per cent. of spirit to help them to bear the voyage.

The remainder of my paper will have reference to a series of experiments, chiefly on the durability of colonial white wines, which I have but lately concluded.

Most of you probably know, that during the late Inter-colonial Exhibition I officiated as Special Commissioner for Juries, and also as chairman of the jury in class 3, section 9, comprising all the exhibits of wine from the Australian Colonies.

I need not now say more in this place of the results of the examinations made by myself and my very able co-jurymen, than that they will be found so far as our judgment upon the *excellence* or the *special goodness* of the wines went, in the printed report of the jury of the section soon to be issued to the public.

My object in mentioning these matters now, is for the purpose of introducing and to some extent defining the peculiar nature of the observations and experiments on

wines, which I wish to bring before this Society. These have very little or nothing to do with the awards of the jurors. It was the circumstance of my position as chairman of the jury, and of my having a large and commodious private office as Special Commissioner for Juries, that furnished me with a favourable opportunity of watching and experimenting on the very numerous and varied specimens of wines placed at my disposal.

The experiments which I made, and the inferences drawn from them, do not properly belong to the general report of the Section, because they were made privately by myself, and primarily to satisfy my own curiosity, and as such, I now respectfully bring them before you, and request you to consider them as belonging to the class of objects embraced by the Society.

The reason of my instituting the inquiries I am about to detail at some length, was this. I know that however well satisfied individuals may be of the durability of our wines, the public mind is full of the notion that *they will not keep*, that if you draw a cork out of a bottle, you must either drink the contents at once, or lose them; especially in the case of white wines, for one of two things, it used to be said, will certainly occur; either it will turn to vinegar in a day in hot weather, or will become thick and discoloured and "nasty." A little more favourable opinion used to be entertained of the *red* varieties; but even they were some way implicated with the white, and both colours shared the same judgment from the ladies, viz., if you open a bottle you must at once drink it or lose it. It was then to this widespread and most injurious opinion (and to my mind most ill-founded) of the perishable nature of our native wines, that I addressed myself under circumstances which were calculated either to establish it, or utterly destroy it in the minds of the intelligent and unprejudiced.

The jury commenced examining wines in the latter weeks of December, and by the end of January had completed the main body of the *white* samples, amounting to more than one hundred, from various parts of Victoria, New South Wales, a few from Grafton and Queensland, South Australia, and Western Australia. Obviously these samples stood high in the estimation of their owners, or they would not have been sent for exhibition. Presumably, objects are not exhibited for the purpose of bringing discredit on the owner or producer. I therefore take the liberty of assuming that these exhibits were the very best their owners possessed.

I will now endeavour to bring you at once to the nature and conditions of my experiments, premising only that:—

In the first place it occurred to me that, for some years to come, probably no individual could have the same chance of studying the best colonial wines as was offered to me.

And secondly, taking into account the heat of the summer weather, and the extremes of heat and cold to which the office was exposed, the thermometer often standing for many hours at 90°, and then rapidly falling to 65°, there was afforded a range of trials, such as no wine cellar either of a merchant or a private individual can boast, for naturally, both the one and the other would strive to avoid such unnatural extremes. In my case this was just what I wanted, and I availed myself of it to the utmost.

The following forty-eight samples were taken at random out of more than one hundred, and they have turned out rather *below* the average of the whole in their keeping powers:—

VICTORIA.

Name of Exhibitor.	Name of Wine.	Year of Vintage.	Remarks.
1. Everist, T. J. ...	Terret	—	Kept pretty well.
2. Ivanhoe Lodge ...	White Ivanhoe	—	Kept for 10 days.
3. Billing, N. ...	Shepherd's Riesling	1864	Kept well.
4. Hewitt, J. ...	No name	1865	
5. Hewitt, J. ...	No name	1866	
6. Morgan's ...	Chasselas	1866	Kept well for one month, afterwards cloudy.
7. S. E. ...	White Wine	1866	Fairly.
8. —	Dromana White	—	Fairly for one month.
9. Hope, Dr. R. C. ...	White	1866	Very well indeed, and improved.
10. Hope, Dr. R. C. ...	Riesling		
11. Weber Brothers ...	Hermitage	1866	Kept well.
12. Weber Brothers ...	A Sweet Water	1864	Do. do.
13. Tronetti, J. P. ...	White	1866	Turned after a few days.
14. Weber Brothers ...	Riesling	1865	Kept very well 2 months.
15. Heine, August ...	Chasselas	1866	Do. and even improved.
16. Meredith, T. ...	Tokay	—	Did not keep well, but remained bright.
17. Vlaminck Brothers	White	1865	Very good.
18. Corowa Vineyard...	Tokay	1865	Did not keep well.
19. Piper, W. ...	White Muscat	1864	Kept well.
20. Piper, W. ...	Chasselas	1864	Kept wonderfully, some of a bottle still remaining.
21. Piper, W. ...	White Marangau	1864	Like ammontillado sherry.
22. Ross and Co. ...	White	1866	Soon became discoloured.

SOUTH AUSTRALIA.

Name of Exhibitor.	Name of Wine.	Year of Vintage.	Remarks.
1. Green, W. ...	Riesling	1863	Kept well.
2. Green, W. ...	Schiraz	1860	Do.
3. Winckels, F. ...	Tokay	1864	Did not keep well.
4. Ross, R. D. ...	Mixture	1864	Kept for three weeks.
5. Smith and Sons ...	Sherry	1864	{ Both these samples kept and improved. It is now more palatable than when opened.
6. Smith and Sons ...	Sherry	1864	
7. Charlesworth, T. W.	Tokay	1865	Kept pretty well.
8. Randall, W. ...	Verdeilho & Tokay	1865	
9. Green, W. ...	Schiraz	1861	Kept for ten days.
10. Auld, P. ...	Mixture 4 grapes	1865	
11. Reynell, J. ...	Verdeilho	1862	Moderately.
12. Hunt, F. R. ...	Madeira	1865	Kept for one month.
13. Auld, P. ...	Hock	—	Kept very well.
14. Hardy, T. ...	Verdeilho	1862	Kept good three months.
15. Gilbert, J. ...	Verdeilho	1860	
16. Gilbert, J. ...	Verdeilho, sample 2	1860	Do. do.
17. Peake, E. J. ...	Pedro Ximenes	1863	Improved to the last glass.
18. Peake, E. J. ...	Verdeilho	1864	Do. do.
19. Peake, E. J. ...	Grenâche	1864	Did not keep beyond a month, became turbid.

NEW SOUTH WALES.

Name of Exhibitor.	Name of Wine.	Year of Vintage.	Remarks.
1. Messrs. Wyndham	Dalwood White	1863	Kept exceedingly well.
2. Fallon, J. T. ...	Tokay	1863	Do. do.
3. —	Bukkulla		
4. Doyle, J. ...	Shiraza & Tokay	—	Kept very fairly.

WESTERN AUSTRALIA.

Name of Exhibitor.	Name of Wine.	Year of Vintage.	Remarks.
1. Clifton, W. P. ..	Verdeilho	1859	All these wines kept and improved immensely ! When first opened they had a bad smell, were rather thick, and tasted sweet. The Verdeilho became a fine strong Madeira.
2. Garden Hill Vine- yard	Muscadine	1863 and 1864	
3. Hardy, Joseph ..	White	—	

The wine on which I conducted my experiments was that which was opened for the judges.

1. When they had done with a sample bottle, it was set aside just as left, the cork replaced as nearly as possible as a servant might do it in a private family; and it was let stand, cork uppermost, on the table. All the white wines were served in the same way, save that as some people very properly decant their wine into suitable decanters, some were so decanted, especially for experiment, and the stoppers placed in them, and then let stand on the same table with the rest.

2. The same was also done for the Red Wines, but it soon became clear that there was no need of watching them, for they most manifestly improved by this rough handling.

3. From time to time until the middle of April, nearly three months, the corks were drawn out of the White Wines, now become the main subject of inquiry, and carelessly replaced.

Surely, then, if they were capable of resisting all the heat of last summer, and all the violence done to them by repeated openings and shakings, there is evidence enough supplied to break down for ever the old calumny against them on the score of want of durability. That those kept well which had been made well is proved abundantly by the table.

With a view to ascertaining one or two points in the chemical conditions of the wines thus favourably shown, I instituted the following short series of simple experiments, for the purpose of determining in such a way as any person of ordinary intelligence might easily learn to repeat them, the presence of:—

1. Tannic acid.

2. A rough estimate of the excess of tannic acid over the persalts of iron present.

3. If the persalts of iron were in excess of the tannic acid.

4. The presence of gallic acid.

(a.) A portion was treated with excess of carbonate of soda, and the change of colour noted.

(b.) To a portion of that so treated with alkali—was added in excess a persalt of iron—I used the sulphate. A deeper colour denoted the presence of an excess of tannic acid.

(c.) Another portion was treated with gelatine, and after precipitation had taken place the supernatant fluid was treated with a persalt of iron for gallic acid. The tannic acid is wholly thrown down by the gelatine, and the gallic

acid left, as it is not attacked by gelatine. A blackening of the wine so treated would show gallic acid.

In all the samples which had stood the severe handling just described, I found hardly more than a trace of gallic acid ; and in the soundest and finest of them, the Yallumba Sherry and one or two of Peake's and Gilbert's scarcely a trace, and not a great excess of tannic acid ; showing that the excess of tannic acid had been happily removed, if it ever was great, and that what remained had not been oxidized and raised into the higher form of gallic acid.

Whilst treating of these chemical aspects of wine, I will avail myself of the present opportunity to say a few words upon another interesting point. I know I am going to run the greatest risk of forfeiting my good reputation in the minds of the great part of wine-makers in Victoria. But truth and science are to be preferred to prejudice ; and if I must forfeit my reputation in consequence of what I am going to add—well, let it be so.

The subject, then, that I am going to call your attention to is the use of strong spirits of wine under certain circumstances.

This employment of brandy, or spirit of wine, is useful under at least two wholly different conditions, and for purposes widely distinct. It must be borne in mind that wine-making and maturing are almost entirely of a chemical nature, scarcely any operation but involves numerous chemical laws. Yet as a rule scientific chemists are bad makers of wine, partly because the whole chemistry of wine is not yet fully known, and partly because they are habitually too fond of instituting new inquiries. Perhaps these admissions will soothe, if not quite appease, my prejudiced friends. Now to the subject.

In countries like the warmer districts of Victoria, and the whole of South Australia, the *musts* are exceedingly rich in saccharine matter, with abundance also of those nitrogenised substances which are necessary to fermentation ; and so actively does fermentation proceed, that in a very few days the whole of the saccharine matter is split up into spirit, water, and carbonic acid. For if left to themselves in warm weather the saccharine and nitrogenous matters will soon come to a balance ; either the whole of the sugar will have been split up—and in that case a dry wine will result—or if there be too little nitrogenous matter to exhaust it, then the product will be a sweet one.

Whatever the wine is, sweet or dry, one thing is certain,

that in hot climates you can never produce wine with the perfume (bouquet) peculiar to those of colder regions. Nature has fixed the impassable barrier. If you are to have the perfumed wines of France—Sauterne or fine Chablis for example—you must also have all the other conditions, especially slow, long-continued fermentation at a low temperature; and in this case there is no demand for any addition of extraneous spirit, for it would almost certainly destroy or vitiate the so-much-prized bouquet, &c.

1. When the fermentation goes on, as it does in all the warmer districts of Australia, the intelligent maker will watch the change in specific gravity, and when towards the point which he considers low enough, he will throw in one or two per cent. of very strong brandy, say 30 to 40 over-proof, and when possible made from the same kind of grapes as his wine has been obtained from. In a few words I will attempt to make the reason plain. The addition of one, two, or three per cent. of strong spirit fixes and renders henceforth either wholly, or very nearly wholly, inoperative the albuminous matters, and prevents further rapid fermentation—prevents therefore the formation of spirit; and just in proportion as it prevents the formation of spirit does it preserve the natural sugar. The addition, then, at the proper time of a little strong spirit, not only adds nothing to the amount which would have been produced if all the sugar had been split up, but in very many instances it prevents the wine from becoming spirituous in a high degree! As, therefore, we cannot have here generally Johannisberg, and Sauterne, and Burgundy, in approximate perfection, we must turn our attention to perfecting wines of the Portuguese, Spanish, and Italian character. And when we have reached to the achievement of Lisbon sweet and Lisbon dry, and Bucellas in whites, and to Colares and Ports in red, we may be very well satisfied, even if three per cent. of brandy were used to save a portion of the saccharine matter. Whilst on this topic I may add that boiling the must would do for it the same as the brandy, fix those matters which are necessary to carry on active fermentation.

2. Brandy is sometimes, and I think needlessly, added to wine before it is sent on a voyage. Here I agree with the anti-brandy doctrine, for if the wine was properly made and matured there is no need of strong spirit being added.

3. In Portugal every vineyard-keeper makes a quantity of what he calls "arrómè," and what the Spaniard calls "arrópè"—fresh must—before any fermentation has taken

place, carefully boiled down till of nearly the thickness of treacle, and most carefully scummed while being evaporated. It consists then of the natural saccharine matter of the ripest and best grapes, to which is added when cold five per cent. of brandy. This is used, if occasion require it, for giving additional sweetness and fulness to wine. This is a very different affair from the *geropiga* prepared for sophisticating Port wines.

4. The use of brandy for the purpose of what may be called fortifying wines, *i.e.*, making artificially a compound to resemble some European wine, and perhaps for the dishonest purpose of passing it off for what it is not, I reprobate.

5. Regarding fining wines, it may be mentioned that when whites of eggs are used, unless the wine shows a vast excess of tannic acid, when they have been beaten up to a froth, a small portion of brandy is added to diminish the effect they would otherwise produce in taking too much of the tannic acid out. By ignorance of this much wine has been utterly ruined.

It belongs naturally to this place, to state that no real advance in wine making, and in creating marketable wine—wine I mean that can be supplied from year to year of the same character—can be made, unless accurate accounts of every circumstance of climate, soil, vines, fermentation and after-treatment be kept in every wine cellar, as well as samples of the wines themselves. This for the sake of reference and comparison.

I would suggest here, that were cellar-books purchasable, ruled and headed so as to give a column for each particular I have alluded to, and a good many others which I need not touch upon at present, with an ample space on one of the margins for *remarks*, one great step would be taken in the right direction. The owner of a vineyard would soon find his account, in having such records carefully kept. It is only by adopting these necessary means, that wine of a kind which happens to secure a market can be continuously supplied from year to year. I have no doubt but my friend Mr. Blake of Tabilk, has by him books that would serve as perfect models of this kind of record. I cannot be too emphatic in saying that everything done to each particular wine should be carefully recorded.

It is not, however, my intention to write an essay on elementary matters and technicalities in wine making, but to point to one or two things which occur to me as not having been sufficiently insisted upon in the several useful

treatises which have issued from our local press ; my object on this occasion has been rather to give a summary of my own observations on those colonial wines which have formed the subjects of my private studies and experiments.

Many inducements of a public character have been held out to foster this industry ; and perhaps the most valuable efforts have been made by the Board of Agriculture towards fostering this spirit, by publishing reports on colonial wines, and awarding premiums for the best samples.

It is matter of regret that the prizes offered for wines during the last two years have been inadequate to draw the best of our vignerons into competition at the Agricultural Exhibitions, and that the recommendations offered by the judges, regarding the storing of samples of the best kinds, have not been carried out fully ; the objects of the recommendation being, that in future years judges may be able to state what at present no man can—viz., how each sample has stood the test of keeping, and still more, how specimens have stood a voyage to Europe and back ; for it is only from data of this kind that the merchant will be justified in trying foreign markets, and the producer and wine-keeper here learn how to correct faults in fermentation, and in fact errors which will affect the character of our wines.

It must ever be borne in mind, that we are still in the very infancy of wine producing, but it is for the most part a healthy infancy and full of promise. The rapidity with which our Adelaide neighbours have attained almost perfection, and the steps they have taken to ensure it, are full of instruction, easily attainable by our own cultivators ; and though we may not all at once attain to their peculiar excellence, yet we may attain to others in our own produce, not less rare and valuable ; though as different in kind as are the finest productions of France from those of Germany, Spain, Italy, or Hungary.

As regards the magnitude of our wine imports, I am enabled to lay the account before you for 1866.

The following tabulated statement has been courteously supplied by the Honourable the Commissioner of Trade and Customs, and will, it is believed, be replete with interest for the intelligent, as showing the quantity of wine entered at the Custom House during 1866, the various countries from which it was shipped, and the total amount Victoria spent that year on wines.

It would appear that only about £3,000 worth of wine was imported from South Australia and New South Wales,

and that the whole of the rest of the amount (£241,132) was for wine of foreign growth, whether arriving direct or coming through other colonial ports.

In round numbers Victoria imported from South Australia 9,000 gallons, valued at five shillings (5s.) per gallon, and very nearly, if not quite, the whole may be presumed to have been of South Australian growth.

From New South Wales, Victoria received 13,300 gallons, at a declared value (average) of 10s. per gallon. Consequently very little of this could have been colonial produce.

So that the whole importation of colonial wine imported into Victoria from the Australian colonies, calculated at half a bottle per head, would about suffice for the population of Melbourne for *one day*.

One may be pardoned for wishing to see a much larger proportion of our cash spent on the purchase of colonial wine, which, for its generous qualities, deserves better of us than our custom has been hitherto.

VICTORIA.—1866.

RETURN SHOWING THE QUANTITY AND VALUE OF WINE IMPORTED DURING THE YEAR 1866, ARRANGED UNDER THE SEVERAL PLACES OF SHIPMENT.

Place of Shipment.	Quantity.	Value.
United Kingdom	183 pipes, 67 butts, 20 puns, 1,437 hhds., 50 half-hhds., 104 brls., 108 casks, 13,380 qr.-casks, 511 octaves, 17,965 cases, 21,301 galls.	£203,156
New South Wales	77 hhds., 4 casks, 242 qr.-casks, 46 octaves, 139 cases, 1,733 galls.	6,662
New Zealand	13 qr.-casks, 281 galls.	351
South Australia	105 hhds., 18 qr.-casks, 6 cases, 2,882 galls.	2,262
Tasmania	1 hhd., 8 casks, 3 qr.-casks, 3 cases, 182 galls.	286
Western Australia..	2 galls.	1
FOREIGN STATES.		
Bordeaux	98 hhds., 100 qr.-casks, 6,144 cases, 486 galls.	10,213
Bourbon	1 gall.	1
Cadiz	8 galls.	4
Cape Town...	24 galls.	23
Charente	1,259 cases, 296 galls.	1,198
Hamburg	30 cases, 15 galls.	96
Mauritius	5 galls.	5
Oporto	50 hhds., 1,242 qr.-casks, 185 cases, 20 galls.	14,282
Rotterdam	1,213 cases, 52 galls.	1,834
San Francisco	72 galls.	28
Tomé	10 galls.	10
Total	183 pipes, 67 butts, 20 puns, 1,768 hhds., 50 hf.-hhds., 104 brls., 120 casks, 14,998 qr.-casks, 557 octaves, 26,944 cases, and 27,373 galls.	£241,132

J. G. FRANCIS, Commissioner of Trade and Customs.
 Custom-house, Melbourne, 26th April, 1867.

The subjoined table, taken from the statistics just published, shows our total amount of wine for 1866 to have been 195,953 gallons. Taking the population of Victoria to be 633,000, this quantity would allow about five half-pints to each individual—a quantity hardly sufficient to supply the colony for three days if ours had become a wine-drinking population. There is an end then to all talk about this colony being in a position at present, or likely of becoming so for a few years, to supply anything approaching the wine required by the people in proportion as their instincts draw them more and more to it.

VICTORIA.

THE ACREAGE UNDER VINES, AND THEIR PRODUCE IN EACH COUNTY AND UNSETTLED DISTRICT, AND IN THE ENTIRE COLONY, DURING THE YEAR ENDING 31ST MARCH, 1867.

COUNTIES AND UNSETTLED DISTRICTS.	No. of Acres under Vines.	VINES.				Wine produced.	Brandy manufactured.
		No. of Vines.	Grapes Gathered.				
			Not made into Wine or Brandy.	Made into Wine or Brandy.	Total.		
<i>Counties.</i>	No.	No.	Cwt.	Cwt.	Cwt.	Gals.	Gals.
Anglesey	4	4,000	10	...	10	...	...
Bourke	704	1,008,970	2,299	3,097	5,396	17,546	...
Dalhousie	50	92,300	235	29	264	200	...
Dundas	7	13,162	99	198	297	360	...
Evelyn	365	929,348	110	5,231	5,341	33,004	...
Follett .....	...	...	...	...	...	...	...
Grant	1,004	2,241,881	1,972	7,409	9,381	50,758	21
Grenville	36	76,400	64	308	372	2,033	...
Hampden .....	...	...	...	...	...	...	...
Heytesbury .....	...	...	...	...	...	...	...
Mornington	56	115,840	62	245	307	975	...
Normanby	23	30,000	43	13	56	60	...
Polwarth	4	10,000	3	17	20	110	...
Ripon	50	90,000	234	184	418	181	...
Talbot	270	470,000	2,875	1,300	4,175	9,000	...
Villiers	42	67,000	92	130	222	432	...
<i>Unsettled Districts.</i>							
Gipps Land	10	17,090	112	80	192	450	...
The Loddon	425	744,614	4,854	2,778	7,632	15,116	...
The Murray	848	1,374,080	296	14,534	14,830	62,935	...
Rodney	58	147,750	383	326	709	2,254	...
The Wimmera ...	95	236,691	760	139	899	569	...
Total, 1867	4,051	7,669,126	14,503	36,019	50,521	195,953	21
Total, 1866	4,078	8,199,618	18,063	31,686	49,749	176,959	795
Increase .....	...	...	...	4,332	772	18,994	...
Decrease	27	530,492	3,560	...	...	...	774

NOTE.—The acreage and number of vines are for the year ending 31st March, 1867; the quantity of grapes gathered, and of wine and brandy made, are for the previous season. The grape crop comes in too late to admit of its being returned when the agricultural statistics are collected.

If we take the yield of Victoria as returned in the above table, as the minimum of our produce, and also the returns from New South Wales and South Australia, the total recorded quantity in gallons for 1866 will be as under :—

Victoria	...	...	..	195,953	gallons.
New South Wales	...	...	...	168,123	"
South Australia	...	...	...	839,979	"
				1,204,055	

Suppose the whole produce of the three principal wine colonies of Australia to be available for the population of Victoria, who shall be imagined to have become suddenly enraptured with colonial wine, and *must* have it as long as a drop remained, the quantity above stated as obtained from reliable records would supply us with a trifle less than fifteen pints—say a dozen bottles each.

Allowing a very moderate supply to the adult population, and omitting tee-totallers and children, I calculate it would not suffice for one month ! and that we should have to go eleven months of the year without one drop obtainable for love or money.

I venture now to draw the modest conclusion, that for many years to come, we of Victoria are unlikely, with all our natural advantages, to supply our own needs. I have been repeatedly assured that a single wine store in Great Bourke-street, sold in one day more than 500 quart bottles during the last summer ; and that the Australian Wine Company disposed of upwards of 15,000 gallons, chiefly in small quantities, rarely exceeding quarter casks, during the same time ; and at rates seldom exceeding one shilling. per quart bottle.

So far then as the instinct and taste of our people are concerned, nothing can be more hopeful ; and so far as the prospect of adequately gratifying it goes, nothing looks more disheartening ; for the planting of the vine is not progressing at all in the ratio in which it might be expected.

Whilst on this topic, perhaps for the last time in my life, permit me to add a fervent hope, that the evidences afforded by the Exhibition, the results of the jurors soon to be in the hands of the public, and these little investigations of mine, may influence another important element in vineyard forming and wine-making, viz., the monetary. The time has now surely arrived when this produce will be treated like any other, and advances of money made upon it, just as on coals or wool.

Gentlemen, I thank you for patiently listening to so long a paper, but one word more before I take leave of this class of subjects, the study of which has afforded me pleasant occupation for my leisure time for many years.

It may be asked in other places to which this paper will travel in your *Transactions*, why I, a clergyman, should have taken so much trouble about a subject of this nature? To reply fully to such a question would be long. Yet one or two reasons may be briefly stated. Certainly it is part of my duty to inculcate morality, to discourage and put down drunkenness to the best of my ability, and to strike a blow, if possible, at the very root of the evil. Experience has long ago convinced me that pledges and resolutions to abstain from ardent spirits are but "poor safeguards of unstable virtue;" and that to effect a lasting cure the natural instincts must be not violently assaulted with resolves, but steadily and gently turned towards sources of reasonable and healthy gratification, while the danger of excess is effectually removed.

The experience of all warm countries where wine is the universal beverage leaves no doubt but that where the vine flourishes in luxuriance, there our beneficent Creator intended that his children should drink the produce of it and be glad.

I need not recur to scenes of drunkenness with which we were all only too much familiarized a few years back; but I will lay before you some tables of shocking deaths brought on certainly by drunkenness. The wretched effects of this vice are forced upon the clergyman and the medical officer more than upon all others. Consider for a moment the subjoined tables, and say if I did or did not propose to myself a meritorious work when I set about striving to turn this current into another channel; and to help in providing the requisite conditions.

	Males.	Females.		Males.	Females.
1853 (6 months)	40	9	1860	78	11
1854	107	27	1861	39	8
1855	68	15	1862	40	9
1856	61	10	1863	22	10
1857	42	12	1864	28	9
1858	57	9	1865	47	18
1859	50	9		<hr/>	<hr/>
				679	156

Of the above numbers thus much is known, that 51 females died certainly of *delirium tremens*, and 406 males.

These tables do not contain the other forms of death derivable from drink, they are purposely confined to deaths

directly and immediately caused thereby. And is it not a sad contemplation?

Again, during eight of the above years I was constantly engaged with investigations, chemical and histological, sometimes for myself, at others for members of the medical faculty, and for the General Hospital; and had constant access to the laboratory of the late Government Analytical Chemist, for whom I performed for several years very nearly the whole of the microscopic and histological work. I thus had opportunities which few non-medical men have had in this country, of witnessing the ravages made by ardent spirits on the human constitution.

Peculiar forms of liver and kidney disease; fatty degeneration of the softer viscera; molecular changes, such as softening of the brain; and insanity;—these are a few of the more prominent rapid consequences of habitual spirit-drinking in this warm dry climate, as presented to the student of disease. When to the above catalogue, which affects primarily the drunkard himself, you add all the ruin and misery of a family, the wretched home and starving neglected children, you arrive at something like what used to be daily and hourly before the eyes of a minister of religion in this new country.

Application has been made to the Sheriff of Melbourne and to Dr. Paley, the able head of our great Lunatic Asylum, for such statistics as they possess of crime and insanity caused by the abuse of ardent spirits, and in each case I have been politely promised all the information which it is in their power to communicate. But I regret to say I had not applied for it in time to allow of its being furnished for this paper.

On the whole perhaps it will be as well to make another short paper, by way of appendix to the present, as soon as I have obtained it, and also more of a like character from Sydney, Adelaide, and Hobart Town.

If a man believed in the existence of a fundamental remedy, cheap, easy of application, wholesome and safe, would he not be to blame if he did not try to apply it? I have tried to clear the way to give it a chance. I believe in the remedy myself—I have more than a theoretical belief in it. I am no quack. I hate quackery. Had the slightest suspicion of *quackery* attached to me, I am quite sure the Medical Society of Victoria would never have elected me one of their *two* honorary members.

The following anecdote is worth placing on record.

In my youth I spent full seven years in and near the great capital of Portugal, in times of turmoil and almost disorganisation of society, consequent on civil wars, when the utmost excitement prevailed and the bad passions of men for a season broke loose, yet in that city of three times the population of Melbourne, and where wine was not more than two pence the quart bottle and strong brandy five or six pence the imperial pint, I never saw a Portuguese drunk. The occasional spectacle of a Dutch or British sailor drunk in the gutter, and dealing largely in loyalty to his own country and eternal execration of all others, used to afford an hour's cheap amusement to a whole street. Among themselves *drunkenness*, and *delirium tremens*, and our forms of liver complaint were wholly unknown.

In the interests then of health and morality, and cheerful and happy homes, may I be pardoned for recording my heartfelt wish, that I may live to see the time when even the humblest labourer, at the close of his hot day's toil, will stroll into our fine parks and public gardens, and there with his happy family around him, enjoy his hour of relaxation and drink his bottle of wholesome wine at the cost of a few pence, without either the reproach of extravagance or the danger of intoxication. In fact I hope and wish to see the Victorians a healthy, sober, jolly, wine-drinking population.